

Running head: CHILDREN'S PREFERENCES FOR COLOR SCHEMATICS

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By

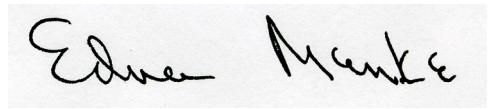
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Children's Preferences for Color Schematics of Hospital Rooms

Approved by

A handwritten signature in black ink, reading "Edna Menke", is displayed on a light gray rectangular background. The signature is written in a cursive, flowing style.

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## Chapter 1

### Introduction

Thousands of children are hospitalized every year, and the number of specifically designated Children's hospitals has increased. In 2004 there were 250 designated children's hospitals in the United States (Coull, & Cahman, 2004). The number of children being admitted to the hospital emphasizes the importance of child centered care.

Since children are the future of the world, it is important to foster a background that is rich in culture, education and art to enhance such a generation. Many events can be key in the furthering and hindering of young minds. Hence, it is of the utmost importance to ensure comfort and piece of mind during a not uncommon hospital stay for the young.

Being hospitalized is a stressful time that may lead to long lasting psychological effects, especially in children (Ogilvie, 1990). Thus it is necessary to create an atmosphere that is able to foster comfort in children who are undergoing hospitalization. Reducing stress surrounding the hospital experience is believed to hasten recovery and decrease potentially harmful emotional and physical effects (Ogilvie, 1990). Research regarding the effects of hospitalization on children has focused primarily on parents' perceptions of their children's hospitalization rather than the children's own perception of their hospitalization. This is problematic since studies have shown that parents of

hospitalized children often feel as though they have greater stress than their own children (Ogilvie, 1990).

There have been studies on the effect of hospitalization on adults and how specific environmental changes can potentially impact the quality and time an individual spends in the hospital. These studies have shown that environment affects patient's emotional status. The positive emotional state of a patient, in turn, has been linked to shorter hospital stays and more positive care by doctors and nurses. One study suggested that environment of healthcare facilities shaped patient response (Swan, Richardson & Hutton, 2003). This study addressed areas including patient and nurse interaction and attitudes. However, it did not cover the area of environment inside the pediatric patient room. No previous studies have been located that addressed the theory of color scheme and room arrangement in the overall appeal and aesthetics of the hospital stay and the effects on patients of such an environmental experience.

In 2003, Swan, Richardson, and Hutton found that physical surroundings can influence judgment of performance, satisfaction, loyalty and other perceptions. These along with other characteristics of hospital stay are the reasoning as to why it is necessary to incorporate an interior design theory that uses the conceptualization of children and their stay to create an atmosphere which promotes good feelings and the return of health. It has therefore been proposed to design the interior of children's hospital rooms in a way such that they entice the minds of children and serve to decrease the fear of the hospital stay and promote comfort and healing.

Research has shown that hospital environment affects patients' emotional states. Most research in the past has been done on environmental effects on parents while

spending time in pediatric hospitals with their children, instead of the effects on the actual patients, the children. Also, research focusing on children has not been directed towards the design of the room in which they reside.

#### Purpose

The purpose of this study was to examine children's preferences in color schematics in hospital rooms if they had to be hospitalized. The specific research questions were 1) Which of three color schematics of hospital rooms do school aged children prefer?, and 2) What are the reasons school aged children give for their color schematic preferences?

## Chapter 2

### LITERATURE REVIEW

The literature review focused on children's hospitalization, parental perceptions of their child's hospitalization, the physical hospital environment, and an interior design theory. This section concludes with a discussion of the environment of existing children's hospitals.

#### Children's Hospitalization

Hospitalization is considered a stressful experience for a child. Vernon (1965) and colleagues are the authors of one of the classic books regarding the behavioral responses of children to hospitalization. They provided a synthesis of the research that had been done regarding hospitalized children. One of their conclusions was that hospitalization has long term lasting effects on children's development. This conclusion is still supported by multiple studies; most, however, being more optimistic by saying "may have" lasting effects on psychological, emotional, and cognitive development. The experiences and responses of children have been researched in regard to their perceptions of being hospitalized, preparation for hospitalization, and some interventions to ameliorate psychological and emotional effects (Belmont, 1970; Melynk, 1994, 2000; Menke, 1972; Ryan-Wenger, Sharrer & Wynd, 2000; Vernon, Foley, Sipowicz & Schulman, 1965; Visintainer & Wolfer, 1975). None of the studies, however, have focused on the physical aspects of the hospital environment. Research has focused on

children's perceptions of stress in other environments and situations, such as school, family structure, and physical living conditions (Huang & Menke, 2001; Menke, 2000; Sharrer & Ryan-Wenger, 1995). The way children perceive the environment is their reality; thus it is important to learn about children's preferences in physical features of their hospital rooms.

#### Parental Perceptions of Their Child's Hospitalization

Extensive research has been done concerning the issue of parental anxiety and fear of their child's hospitalization. Most studies address the proposition that the higher the parental anxiety, the greater the child's will be, and vice versa. Oligivie's (1990) interview based study of nine families asked parents what made them nervous or was of concern to them during their child's hospitalization. They spoke of anxiety due to surgery, emotional response, and children's pain level as highest concern. Parents had many stressors including waiting, confusion on how to parent in the hospital setting, being given misinformation or not being kept up to date on their child's status. It was also found that "Parents expressed feelings of stress related to changes in home routines, lack of privacy in the hospital, perceptions of infrequent checking of children by nursing staff, and fears that a child behavior would reflect negatively on the parent" ( p.53). This study focused only on parental anxiety related to their children's hospitalization but not their child's anxiety.

In Co and colleagues' (2003) study, parents were asked to rate their children's care while in the hospital through a mailed survey that was completed by parents post hospitalization of their child. The researcher's premise was that parents act as proxies for their children's evaluation of hospital systems in a way that health care professionals

cannot. The sample included 12,600 respondents who completed the mailed survey. The researcher's conclusions were that parents rated their children's care as very good. Yet, shortcomings were also noted, with the most problems revolving around information and coordination of care for children (Co et. al. 2003). These are all very important aspects of a hospital stay, however, since only parents were surveyed, only their perception of the child's stay was noted. Also, this study did not look at environmental design in the quality of care of each child.

Parents' perception is important as part of a child's hospitalization in reference to overall psychological effects on the child. It has been noted that, "Duration of hospital stay for children is shortened if their parents stay with them" (Shields, 2001, p. 2). Finding that children staying with parents are admitted for an estimated 2.88 days compared to children without parents' presence being admitted for an average of 4.16 days, (Shields) only further supports the fact that it is important for parents to be part of their children's hospitalization. However children experience many psychological effects from being in the hospital that can not only be attributed to parents being present. Previous research has found that the hospital "experience is, indeed, stressful and that children may experience fear phenomena, regression, sadness, separation anxiety, withdrawal, sleep disturbances, and aggressive behaviors" (Board, 2005, p.167). Such psychological problems most likely have a deeper implication than simply the presence of parents. Many other aspects of the stay are likely to mentally effect the patient, these other aspects are in dire need of being researched, particularly the physical environment.

## The Physical Hospital Environment

The physical hospital environment has been shown to have psychological effects on patients in the hospital. These effects, however, have only been studied in accordance to the adult population. Swan and colleagues (2003) found that delirium decreased by half in patients who had windows in their Intensive Care Units as opposed to those who had rooms without. This finding was further investigated by showing patients pictures of highly windowed versus windowless rooms. Again, the researchers reported that patients and staff responded negatively to a decreased amount of windows in such an area (Swan, Richardson & Hutton, 2003).

This is only the beginning of the environmental effects on patients. It has been suggested that the physical environment of a health care setting is a contributing factor to patient responses (Swan, et. al., 2003). In the same study as described above, which was documented in *Health Care Management Review*, adults had been surveyed in relation to their reactions in accordance with mood, and satisfaction of care depending on the environment in which they were placed. The study concluded by stating the patients who were in more appealing rooms had a tendency to rate their experience as more positive than those who were placed in regular rooms.

## An Interior Design Theory

In psychology, there is an effect known as “the appealing setting effect”. This is explained as when an individual is brought into a setting that is more appealing than normal; their satisfaction with all occurrences in that setting inherently rises. It is hypothesized that the effect of an appealing setting can also be true of hospital patients and their evaluation of staff (Swan, et. al. 2003). Such a finding makes it all the more



important to test such a theory and its effects on children in the hospital setting. The conclusion of this study went more in depth to state that “A possible item for future research is the possibility that appealing patient rooms improve the image of the hospital in the eyes of family, friends, and others who visit patients” (Swan et. al. 2003, p.262). This is a very important research area; however it seems even more important to determine patient satisfaction of appealing rooms across the board first, and move beyond simply adult patients in an acute care setting and focus on children.

Shield’s (2001) reviewed McClowry’s 1988 literature on the responses of children to hospitalization, and found that studies took little account of the environment, thus making it impossible to ascertain whether children’s psychological upset was influenced by environment or care. Thus it is important to begin to look at such aspects of pediatric patient environment and their effects on the younger school-aged patient.

### Children’s Hospitals

Children’s hospitals are, and should be, designed differently than other hospitals. Children have different needs and interests as their minds are constantly at work. One hospital in New York chose to incorporate huge wall murals by renowned children’s book artists to make the environment more appealing. It also included a large space outside that could be used as an amphitheatre to entertain the children. One of the most important things the hospital did was creating built -in frames on each patient’s door as a place for each to display his or her own artwork (Eagle, 2005). Thoughts and design concepts such as these could potentially have a monumental impact on the effect of hospitalization on children. Again, this supports the supposition that design theory in pediatric hospitals is an area that needs much further exploration.

The appropriate theme of children's hospitals has long been debated. This is an issue that requires a great deal of thought. It is rather tempting to want to design an area specific to very young patients, of the preschool age and younger. However it must be noted that the hospital environment must also be appealing to parents and hospital care providers (Coull & Cahman, 2004). Thus the themes and appearances of the environment must appeal not only to the very young but school-aged, adolescent, and older individuals as well. "A consistently applied architectural or interior design concept that has universal appeal and is child-friendly, rather than childish, offers a rich source of meaning and relevance for all users.... Recent children's hospital projects have drawn on nature, the universe, technology, local references and poetry to provide opportunities for diversion, entertainment, delight, learning and reflection" (Coull & Cahman, p.44). The overall appeal of a children's hospital should be to extend a sense of wonder and engagement as well as providing meaning and order. (Coull & Cahman) Art is also highly important in such a setting. Inherently it has healing qualities that allow the mind to wander and create a sense of peace. Art has a universal appeal that can have the effect of calming those in stressful situations as well as allowing them to reflect upon their situation in their own unique way (Coull & Cahman).

It is thus considered highly important to incorporate all of the above aspects into a pediatric patient's room. They need to be comfortable and able to let their imagination wander as though they were at any other locale. Such design has the potential to reduce child stress, promote wonder, and increase healing time due to a positive outlook as seen by the patient, and potentially by their parents as a secondary feedback to the child's reduced anxiety.

## Conclusion

Until researchers ask children themselves to voice their opinion on color choice and other aspects of the hospital environment, hospital administrators, nurses and doctors will have little idea of what truly inspires and supports the children in their care to get well. This study represents a first attempt at involving children in this important task.

## Chapter 3

### Methods

The purpose of this study was to examine children's preferences in color schematics in hospital rooms if they had to be hospitalized. The specific research questions were 1) Which of three color schematics of hospital rooms do school aged children prefer?, and 2) What are the reasons school aged children give for their color schematic preferences?

### Operational Definitions

The following operational definitions were used:

*School aged child* refers to a boy or girl who is between the ages of seven to fourteen years.

*Grade* refers to the grade level of each participant in accordance with the school system where data was collected.

*Color schematic* refers to the way in which a specific color group, in this case blue, is manipulated.

*Children's color preference* refers to any hue that the child indicates on the questionnaire.

*Color design* refers to the pictures of the three designs which the children were presented by the investigator to evaluate in terms of preference.

*Hospital room color preference* refers to the choice the child makes as to which of the three room color schematics is the most appealing.

### Research Design

A descriptive, cross-sectional design was used to examine children's preferences in color schematics if they need to be hospitalized (Polit & Beck, 2004).

### Human Subjects

Prior to doing the study, the proposal was submitted for approval to the Behavioral/Social Sciences Human Subject Review Committee at The Ohio State University. Approval from this committee was obtained on December 20, 2006. Subjects were recruited at Lial Catholic School, in Northwest Ohio. The investigator provided the Principal with packets to be sent home with each student in grades one through six. The packets were sent home with the students on March 13, 2007. The packet contained a letter to the parents, the questionnaire, and two copies of The Ohio State University Parental Permission Form for Behavioral/Social Science research. The students were responsible for gaining parental permission and returning the signed consent form within two weeks to a locked box outside of the principal's office. The investigator picked up the consent forms from the Principal and determined a time when she would be able to do her study.

### Sample

The target population was school aged children in grades one to six. A convenience sample was obtained from an elementary school in Northwest Ohio. The anticipated sample was approximately 80 children. Inclusion criteria were that the child be in grades one to six; a parent or legal guardian must give written consent for the child to participate in the study; the child can read, write, and understand English; and was

willing to participate in the study. Permission from the principal of the school where the study was done had been obtained.

### Procedure

The investigator met with the students who had parental permission and asked them if wanted to participate. A script was used to obtain assent from the students. The investigator explained the study and told the children what they would need to do if they agreed to be in the study. All of the children gave assent and participated in the study. Participants were broken up into groups based upon their grade level. Each group of participating students was taken to another area of the classroom. This separated the children who were given permission from their parents and assent from those who had not. The investigator distributed copies of the questionnaire and then showed the group the design boards of the three hospital rooms. Each design board showed an 11 by 17 inch depiction of a plain, pattern, and mural schematic that were each mounted on a one inch blue border then surrounded by a two inch border of white foam core. Each question on the questionnaire was read aloud, and the children were told to follow along so all were clear on what each question asked and where to mark on the questionnaire. It took approximately twenty minutes for each group of children to complete the study. The questionnaires were then collected; face down, by the investigator.

### Instrumentation

The color schematics were presented via design board that the investigator had developed. There were three identical boards showing three walls of hospital rooms. The only difference in these boards was the pattern infused upon the walls of these rooms, one plain blue, one patterned blue, and one an environmental mural which was predominantly

blue. Blue was chosen as the predominant color as it is thought to be a calming color. Also, blue was chosen so that there was a single color being used throughout the study as not to make the participant's choice based on color preference, rather than design. These schematics were chosen to represent the three main types of schematics. The plain color schematic is simple and one dimensional. The design color schematic involves motion in many directions but is repeated and can be potentially confusing to the mind. Lastly, the environmental mural color schematic tends to evoke calming thought processes that wander. Any other types of schematics used would only be a repeat in some form of one of these three main forms. The color schematics were presented by the investigator before the participants completed the questionnaire. The participants were given directions regarding what they were being asked to do by the investigator.

The instrument, Color Inventory for School Aged Children, was created by the investigator, Sarah Meyer. The questionnaire is a compilation of nine different questions designed to highlight children's preferences for hospital room color schematics. The questionnaire was developed based on the literature review and her knowledge of color schematics. The questions include a couple of demographic questions, preference for color, design of color schematics, and a question regarding hospitalization. All questions were asked in as simple a manner as possible to make it easier for the younger children to understand. Also for one question the participants had to rank using a scale of one to six. Other questions gave forced response answers with the option of "other" to give the children a pathway on which to guide their thought, yet at the same time giving them the opportunity to place their own thoughts if different from the options given. Prior to using the questionnaire it was reviewed by several faculty members for content validity. Based

on the feedback, the questionnaire was revised (Polit & Beck, 2004).

The questionnaire was presented to the participants by the investigator. She was careful to ensure that each group of participants was presented the color schematics questionnaire in the same way. She gave each participant a copy of the Color Inventory for School Aged Children and then read each question out loud. She gave enough time between questions so the participants could think about their answer as it pertained to themselves. As a way of maintaining the same presentation the investigator used a script which she read word for word to each group while conducting her research.

### Data Analysis

The background information and description of the sample was analyzed through the use of frequency distributions, percentages, and when appropriate means and standard deviations.

Research question #1: Which of three color schematics of hospital rooms do school aged children prefer?

This question attempted to gain initial understanding of which schematic each participant preferred. Question number one focused on whether children preferred a plain, pattern, or mural painted room. This was analyzed through the use of frequency distributions and percentages.

Research question #2: What are the reasons that school aged children give for their color schematic preferences?

Participants were given the opportunity to answer this question in an open-ended manner providing qualitative data to the investigator. Their answers were then analyzed and categorized to delineate coding categories. These categories were then presented to



the investigator's mentor to be sure a common consensus was reached. The data was analyzed through content analysis and reviewed by the investigator's mentor to assure consensus. (Krippendorff, 2004).

## Chapter 4

### Results

#### Sample

The sample was comprised of 61 school-aged children in grades 1 through 6 who were ages seven to fourteen. These children were a convenience sample obtained from an elementary school in Northwest Ohio. Table 1 provides a description of the children in regard to background variables. In regard to gender, the sample was almost equally distributed as there were 32 males (52.5%) and 29 females (47.5%). Grades of students varied with the largest number being in the second grade ( $n = 16$ , 26.2%) and the smallest number in the first grade ( $n = 6$ , 9.8%). Of the 61 children, 44 (72.1%) had been hospitalized at least once in their lives (72.1%). This was defined as being in the hospital overnight at some point, not including being born.

The children were asked to indicate their favorite color. Table 2 presents the frequencies and percentages for the children's favorite colors. On the Color Inventory for School-Aged Children there were nine colors listed. In addition there was a space where the child could write a different color if their favorite was not one of those listed. Green was selected by the highest number of children ( $n = 12$ , 19.7%). Blue and pink were each chosen by 11 (18%). Of the favorite colors chosen, black and white were chosen the least ( $n=1$ , 1.6%). Five (8.2%) children wrote a color in the space available for a different color than those listed. Examples of these colors included silver, light blue, teal, and aqua reen.

Table 1

Frequencies and Percentages for Background Characteristics of the Sample (N = 61)

Variable	N	Percentage
Gender		
Female	29	47.25
Male	32	52.75
Grade in School		
First	6	9.8
Second	17	27.9
Third	10	16.4
Fourth	8	13.1
Fifth	9	14.8
Sixth	11	18.0
Experienced hospitalization		
Yes	44	72.1
No	17	27.9

Table 2.

Frequencies and Percentages for Favorite Color of the Sample (N = 61)

Variable	N	Percentage
Favorite Color		
Green	12	19.7
Blue	11	18.0
Pink	11	18.0
Purple	8	13.1
Orange	6	9.8
Red	4	6.6
Yellow	2	3.3
Black	1	1.6
White	1	1.6
Other	5	8.2

### Participants' Hospital Room Color Schematic Preferences

Research question #1: Which of three color schematics of hospital rooms do school aged children prefer?

Participants were asked two questions, one which answered which room they preferred the most and a ranked question that made them rank each room on a scale of one to six. Participants chose the patterned room as their favorite (n=30, 49.2%) with the

mural room close behind ( $n = 27$ , 44.3%). Only a few participants selected the plain room ( $n = 4$ , 6.6%). Each of the room color schematics were ranked by the participants. The mural room color schematic had a mean rank of 4.92 ( $SD = 1.14$ ), the patterned room color schematic had a mean rank of 4.54 ( $SD = 1.59$ ), and the plain room color schematic had a mean rank of 2.44 ( $SD = 1.47$ ).

#### Participants' Reasons for Hospital Room Color Schematic Preferences

Research question #2: What are the reasons that school aged children give for their color schematic preferences?

Reasons given by the participants were elicited by an open-ended response question. They gave numerous reasons for liking the pictures which they had chosen as their favorite. Five categories were derived from the children's responses that were 1) relaxing in some way, 2) reminded them of nature, 3) picture was cool, 4) liked the design, and 5) other reason. See Table 3 for the frequencies and percentages for each category related to the participants' reasons for a specific room color schematic.

The patterned room color schematic was chosen by 30 children. Those who chose the patterned picture said they liked it because of the design ( $n=18$ , 60%). For example one of the participants stated I like it because, "it has a stained glass window and it is pretty" and another participant stated "I like it because there's a lot of different shades of blue and I like looking at all the different boxes to figure out if there is a pattern or not". Other reasons children gave for the patterned room color schematic being their favorite room design were it was cool ( $n = 8$ , 26.6%), it is relaxing ( $n = 2$ , 3.3%) and it reminded them of nature ( $n=1$ , 3.3%) and the one in the other category ( $n = 1$ , 3.3%) stated that they did not know.

The mural room color schematic was chosen by 27 children. Those who chose the mural as their favorite did so mostly because it reminded them of nature ( $n = 14$ , 51.9%). They gave reasons such as they liked it because, “the sky is sort of relaxing and looks like outdoors instead of just a hospital room.” Others chose it because they liked the design ( $n = 5$ , 18.5%), it was relaxing ( $n = 2$ , 7.4%), they thought it was cool ( $n = 3$ , 11.1%), or another reason ( $n = 3$ , 11.1%). The reasons in the other category were; like the other two pictures less, the scenery is very cool and reminds the patient of the outdoor world, and gives something to look at as must be bored in a hospital room.

For the four children who selected the plain designed room color schematic chose it as they liked the design ( $n = 3$ , 75%). One stated I like it because, “It is plain and simple.” The other reason for liking this schematic was that it was cool ( $n = 1$ , 25%). For this color schematic the other three categories were not used by the children to describe this schematic as their favorite.

For all three of the hospital room color schematics, the design category had the highest number of children ( $n = 26$ , 42.7%) responses of why they chose the particular room. The other two categories that were children’s responses of why they chose the particular room were nature ( $n = 15$ , 24.6%) and cool ( $n = 12$ , 19.7%). Few of the children’s responses were in the relaxing or other categories.

Table 3

Frequencies and Percentages for Categories of Why Chose Room Color Schematic

Preference of the Sample (N = 61)

Category	Plain		Pattern		Mural		Total	
	N	%	N	%	N	%	N	%
Relaxing	0	0.0	2	6.7	2	7.4	4	6.5
Nature	0	0.0	1	3.3	14	51.9	15	24.6
Cool	1	25.0	8	26.7	3	11.1	12	19.7
Design	3	75.0	18	60.0	5	18.5	26	42.7
Other	0	0.0	1	3.3	3	11.1	4	6.5
Total	4	6.6	30	49.2	27	44.3	61	100.0

### Discussion

No prior research looking at the same aspects of pediatric environments from the perspective of children could be found documented during the literature review. Thus this study is the first of its kind done to look at such aesthetic aspects of pediatric hospital rooms from the perspective of children. The color blue was used as a design element knowing that it is a cool color and generally thought to evoke a sense of calmness and tranquility. The children who participated in this study chose green (19.7%) blue (18%) and pink (18%) as their favorite colors. It can be noted however that pink was only chosen by females who participated in this study, making pink a gender specific color

choice. Blue and green then remain chosen by both genders and serve as their favorite colors, making it appropriate to use these colors as the basis of hospital room designs.

Also the participants chose the patterned and the mural designed rooms to be their favorites. The two rooms gained almost equal amounts of likeability from the participants. The patterned room was chosen the most by 49.2% of the participants with the mural designed room receiving 44.3%. What can be gained from this conclusion actually appears as a hidden response. The most important number to look at is the percentage of participants who chose the plain room as their favorite, 6.6%.

These statistics help the investigator to gain the knowledge that it appears not to matter whether a pediatric hospital room is likened as a pattern or a mural, more so that it not be plain. This is a highly important take home point as many hospital rooms in the over 250 existing pediatric hospitals across the United States are simply plain monochromatic rooms with little to no design (Coull & Cahman, 2004). It is quite evident that children enjoy some sort of design on hospital walls as it helps to stimulate the mind. However, implementation may be premature as this is only one study that has addressed children's preferences done at one school.

Participants responded that the main reasons they chose for liking their choice of rooms, whether it be the pattern or mural, were related to how relaxing the design made them feel, the likeness of nature that the room employed, and the design itself. Being a great part in the decision making process for likeability of children, these aspects should be considered when the design process is taking place of pediatric hospital rooms. The choices these children made regarding room preference, even though not currently hospitalized, 72.1% of children surveyed had at one point been hospitalized. This is a



credit as it can be assumed that they may have at least a small understanding of the atmosphere and that the time spent in one room can become monotonous when there is no other option as a patient.

Pediatric hospital rooms need to be thought of in relation to the needs and wants of those who occupy them. This first research study looking at such aspects has revealed many important factors regarding the visual aesthetics necessary to occupy and please children. Murals and patterned rooms are important as they help children think of many different things, the design itself, the outdoors, and relaxation. All of which can help to distract a hospitalized child from the reality of what is going on in their life for treatment of an illness or trauma.

### Conclusion

This is the first known attempt to study school aged children's preferences for color and color distribution of hospital rooms. There have been numerous other studies looking at similar variables related to hospital experience as it relates to the schematics of a hospital. However, all of these studies looked either at adult population perceptions of their environment while being hospitalized or parents' perceptions of their child's environment in a pediatric hospital. All of the aforementioned are important, however those in the immediate environment need to be assessed as well, and in this case those are the pediatric population of children's hospitals.

This study has shown that children do prefer a pattern or mural schematic as opposed to a plain color for the walls of hospital rooms. Interesting color schematics should be incorporated into pediatric hospital rooms to produce an appealing aesthetic for children, one in which they enjoy. Knowing that some of their favorite colors include

blue and green, these two colors should be at the forefront of design in these pediatric rooms.

Even though school-aged children chose blue and green as their favorite colors as well as the pattern and mural schematics more research needs to be done. This study did not include all children who frequent pediatric hospitals. Pediatric hospitals by design facilitate children from birth until age eighteen. This study only looked at children in the first through sixth grades. Thus further study is needed to incorporate the feelings and wants of those children who are in grades seven through twelve. Along with this age group of study work must also be done looking at their favorite colors to see if they change with age or do perhaps remain the same. The study needs to be replicated with a larger sample sized at other schools to ascertain if there are similar findings in terms of color preferences and choice of hospital room color schematics. Doing other studies that pay attention to the aforementioned points that this study did not touch on would serve to provide an even greater look at what children really want and desire in a hospital room schematic.

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